REMARKS

In view of the following discussion, the Applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. § 103. The Applicants herein amend claims 1, 7 and 12. Support for the amendments may be found in the Applicants' specification on at least paragraph [0016]. Thus, the Applicants believe that all of these claims are now in allowable form.

I. REJECTION OF CLAIMS 1-16 UNDER 35 U.S.C. § 103

A. Claims 1-3, 7-9 and 12-14

The Examiner rejected claims 1-3, 7-9, and 12-14 as being unpatentable under 35 U.S.C. § 103 over Charny et al. (U.S. Patent No. 6,778,492, issued August 17, 2004, hereinafter referred to as "Charny") in view of Yeh, et al. (U.S. Patent 6,970,471, issued on November 29, 2005, hereinafter referred to as "Yeh"). In response, the Applicants respectfully traverse the rejection.

Charny teaches fast rerouting traffic around a failed node or switch using backup tunnels. (See Charny, col. 5, ll. 38-41). More than one backup tunnel may be provided to guarantee enough bandwidth in the event of a failure. (See Charny, col. 5, ll. 59-64). The backup tunnels are pre-established. (See Charny, col. 4, ll. 30-33, emphasis added). More generally, M number of backup tunnels may protect N number of paths, wherein all N paths may fail simultaneously and all be protected. (See Charny, col. 6, ll. 57-68).

Yeh teaches communicating using IP addressing for redundant telephony modules. The invention provides for efficient and reliable IP addressing in redundant telephony modules where an active one of the redundant modules must communicate using a common IP address. (See Yeh, Abstract).

The Examiner's attention is directed to the fact that Charny and Yeh, alone or in any permissible combination, fail to teach or suggest a switching device or a method comprising switching traffic designated for a primary interface at a first router to an unconnected and unconfigured spare interface at the first router in an IP network, thereby causing traffic to flow across a spare capacity on

a re-configurable transport network between the spare interface on the first router and a spare interface on a second router in the IP network, wherein switching comprises assigning the spare interface at the first router an IP address that is identical to an IP address of the primary interface at the first router, as positively claimed by the Applicants. For example, Applicants' claims 1, 7, and 12 positively recite:

> 1. A method of operating an Internet Protocol (IP) network comprising a plurality of routers, each router further comprising a plurality of interfaces, the method comprising the steps of:
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> connecting, as needed, an unconnected and unconfigured spare interface on a first router in the IP network to a re-configurable transport network which provides connectivity to an unconnected spare interface on a second router in the IP network upon detection of a pre-designated condition in the IP network; and
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> switching traffic designated for a primary interface at the first router to the spare interface at the first router in the IP network, thereby causing the traffic to flow across a spare capacity on the re-configurable transport network between the spare interface on the first router and the spare interface on the second router in the IP network, wherein switching comprises assigning the spare interface at the first router an IP address that is identical to an IP address of the primary interface at the first router. (Emphasis added).
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> 7. A device-readable medium storing program instructions for performing a method of operating a router in an Internet Protocol (IP) network, the router further comprising a routing table and a plurality of interfaces including an unconnected and unconfigured spare interface providing connectivity through a re-configurable transport network to an unconnected spare interface on a second router in the IP network, the method comprising the steps of:
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> receiving a signal indicating a pre-designated condition in the IP network;
>
> connecting, as needed, said unconnected and unconfigured spare interface on said router in the IP network to said re-configurable transport network which provides connectivity to said unconnected spare interface on said second router in the IP network upon receiving said signal indicating a pre-designated condition in the IP network; and
>
> reconfiguring the routing table in the router so as to switch traffic designated for a primary interface at the router to the spare interface at the router, thereby causing the traffic to flow across a spare capacity on the re-configurable transport network between the spare interface on the router and the spare interface on the second router in the IP network,

wherein switching comprises assigning the spare interface at the router an IP address that is identical to an IP address of the primary interface at the router. (Emphasis added).

12. An Internet Protocol (IP) router comprising:

a plurality of interfaces including at least one primary interface and an unconnected and unconfigured spare interface providing connectivity, as needed, through a re-configurable transport network to an unconnected spare interface on a second router in an IP network, wherein said unconnected spare interface is connected to said unconnected spare interface on said second router in the IP network upon receiving a signal indicating a pre-designated condition in the IP network; and

a routing table that is reconfigured so as to switch traffic designated for a primary interface at the router to the spare interface at the router, thereby causing the traffic to flow across a spare capacity on the re-configurable transport network between the spare interface on the router and the spare interface on the second router in the IP network, wherein switching comprises assigning the spare interface at the router an IP address that is identical to an IP address of the primary interface at the router. (Emphasis added).

In one embodiment, Applicants' invention discloses a switching device or a method comprising switching traffic designated for a primary interface at a first router to an unconnected and unconfigured spare interface at the first router in an IP network, thereby causing traffic to flow across a spare capacity on a re-configurable transport network between the spare interface on the first router and a spare interface on a second router in the IP network, wherein switching comprises assigning the spare interface at the first router an IP address that is identical to an IP address of the primary interface at the first router. The spare interfaces can be connected via a re-configurable transport network ("RTN") to form new links at the IP layer as needed and then returned to their inactive, unconfigured state when no longer needed. (See e.g., Applicants' specification, para. [0016]). The switching may be achieved by assigning the IP address of the failed interface to the new interface. (See *Id.* para. [0027]).

The alleged combination (as taught by Charny) fails to render obvious the Applicants' invention because the alleged combination fails to teach or suggest a method comprising switching traffic designated for a primary interface at a first router to an unconnected and unconfigured spare interface at the first router in

an IP network, thereby causing traffic to flow across a spare capacity on a re-configurable transport network between the spare interface on the first router and a spare interface on a second router in the IP network, wherein switching comprises assigning the spare interface at the first router an IP address that is identical to an IP address of the primary interface at the first router. As previously argued, Charny teaches a method of re-routing to a pre-established backup tunnel by adding a second level label to the packet label stack. (See Charny, col. 4, ll. 27-43). That is, the backup tunnels are pre-configured and connected within the network. (See Charny, generally, col. 5, ll. 26-27). Notably, Charny teaches that the second level label indicates a different path than "original path" of the LSP. (See *Id.*).

In addition, the Examiner concedes that Charny fails to teach or suggest the above limitation. (See Final Office Action, p. 3, ll. 8-10). However, the Examiner asserts that Yeh bridges the substantial gap left by Charny. The Applicants respectfully disagree.

Yeh fails to bridge the substantial gap left by Charny because Yeh also fails to teach or suggest a method comprising switching traffic designated for a primary interface at a first router to an unconnected and unconfigured spare interface at the first router in an IP network, thereby causing traffic to flow across a spare capacity on a re-configurable transport network between the spare interface on the first router and a spare interface on a second router in the IP network, wherein switching comprises assigning the spare interface at the first router an IP address that is identical to an IP address of the primary interface at the first router. Yeh specifically teaches that the "inactive" nodes are configured and connected for communications. (See col. 6, ll. 55-67). For example, the nodes may have static IP address such that direct communication to a node may be provided regardless of activity. (See *Id.*). In stark contrast, the Applicants' invention teaches that the spare interfaces are unconnected and unconfigured. Thus, the Applicants' invention teaches that switching comprises assigning the unconnected and uncofigured spare interface at the router an IP address that is identical to an IP address of the primary interface at the first router. Therefore,

the Applicants submit that independent claims 1, 7 and 12 are not rendered obvious by the teachings of Charny and Yeh and, as such, fully satisfy the requirements of 35 U.S.C. § 103 and are patentable thereunder.

In addition, dependent claims 2, 3, 8, 9, 13, and 14 depend from independent claims 1, 7 and 12, respectively, and recite additional limitations. As such, and for the exact same reason set forth above, the Applicants submit that claims 2, 3, 8, 9, 13, and 14 are also patentable over Charny and Yeh and respectfully request the rejection be withdrawn.

B. Claims 4-6, 10, 11, 15 and 16

The Examiner rejected claims 4-6, 10, 11, 15, and 16 as being unpatentable over Charny and Yeh in view of Wing So (US patent application publication 2002/0109879, published August 15, 2002) hereinafter referred to as "Wing So". Applicants respectfully traverse the rejection.

The teachings of Charny and Yeh are discussed above. Wing So discloses network configuration and control information encoded and used to modulate data carried on an optical signal. (See Wing So, Abstract).

The Examiner's attention is directed to the fact that Charny, Yeh and Wing (either singly or in any permissible combination) fail to teach or suggest a switching device or a method comprising switching traffic designated for a primary interface at a first router to an unconnected and unconfigured spare interface at the first router in an IP network, thereby causing traffic to flow across a spare capacity on a re-configurable transport network between the spare interface on the first router and a spare interface on a second router in the IP network, wherein switching comprises assigning the spare interface at the first router an IP address that is identical to an IP address of the primary interface at the first router, as positively claimed by the Applicants.

As discussed above, the alleged combination (as taught by Charny and Yeh) fails to teach or suggest a switching traffic designated for a primary interface at a first router to an unconnected and unconfigured spare interface at the first router in an IP network, thereby causing traffic to flow across a spare

capacity on a re-configurable transport network between the spare interface on the first router and a spare interface on a second router in the IP network, wherein switching comprises assigning the spare interface at the first router an IP address that is identical to an IP address of the primary interface at the first router. This deficiency is not bridged by the teaching of Wing So. Wing So only discloses network configuration and control information encoded and used to modulate data carried on an optical signal. As such, the combination of Charny, Yeh and Wing So would not make obvious Applicants' independent claims 1, 7, and 12.

In addition, dependent claims 4-6, 10, 11, 15, and 16 depend from independent claims 1, 7, and 12, respectively and recite additional limitations. As such, and for the exact same reason set forth above, the Applicants submit that claims 4-6, 10, 11, 15, and 16 are also patentable over Charny, Yeh and Wing So and respectfully request the rejection be withdrawn.

CONCLUSION

Thus, the Applicants submit that all of these claims now fully satisfy the requirements of 35 U.S.C. § 103. Consequently, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the maintenance final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 842-8110 x130 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully Submitted,

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